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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/779,895 | 02/17/2004 | Luke Gregory Kelly | | 9640 |

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EXAMINER

MICHENER, JENNIFER KOLB

ART UNIT PAPER NUMBER

1762

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/779,895 | Applicant(s) KELLY, LUKE GREGORY | |
| | Examiner Jennifer K. Michener | Art Unit 1762 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/993,529.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: trademarked products appear on page 5. Trademarks are permissible, but should be capitalized wherever they appear.

Appropriate correction is required.

Claim Objections

2. Claims 1-7 are objected to because of the following informalities:
In claims 1 and 4, the phrases "200mm", "0.1mm" and "200mm" should allow for a space between the number and the unit.
Claims 2-3 and 5-7 depend from claims which do not exist in this case.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant requires a patch coat "not including an aggregate", but "including glass beads". This is contradictory because the glass beads of Applicant and the prior art are aggregates.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiya et al. (US 2001/0010858 A1) in view of Frenkel (US 2002/0198291 A1) and Jurrus et al. (4,844,964).

Uchiya teaches a method of coating a substrate/support material with a mixture of cement material, water, and glass beads of 0.5mm-3 mm, followed by washing away a part of the cement material, before hard setting, to expose 50% of the volume of surface glass beads (abstract; P22; P28; P24; P48; P50).

Overlapping ranges, such as of glass bead size and exposed surface area, above, are *prima facie* evidence of obviousness. It would have been obvious to one having ordinary skill in the art to have selected the portion of Uchiya's range that corresponds to the claimed range. *In re Malagari*, 184 USPQ 549 (CCPA 1974).

Applicant requires the use of an adhesive in his cementitious mixture, which is required to be silicone and a fortifier. Applicant teaches that acrylic polymer is an exemplary fortifier. While Uchiya teaches the use of acrylic polymers as a cement hardening-controlling sheet material (P32) and silicone as a liner (P62) for contact with the concrete structure of his invention, Uchiya fails to teach the use of these elements *within* his cementitious mixture of concrete, glass beads, and water.

Examiner cites Frenkel to teach the use of silicone resin in a concrete mixture, along with water and with glass aggregate as filler. The silicone of Frenkel is taught to act as a glue to adhere the glass aggregate to the cement. (See abstract; P19 and 42).

Examiner cites Jurrus for teaching that polymer-fortified concrete may contain, in addition to the cement and water, an acrylic agent which acts as a fortifier and bonding agent.

Since Uchiya teaches coating substrates with concrete, with glass beads embedded in and protruding therefrom, with silicone and acrylic used in separate layers and Frenkel teaches that the use of silicone within the concrete matrix aids in adhering the glass

beads to the concrete and Jurrus teaches that the use of acrylic acts as a further bonding agent and fortifier, Frenkel and Jurrus would have reasonably suggested the use of the acrylic and silicone, as an adhesive, in the concrete application mixture of Uchiya. It would have been obvious to one of ordinary skill in the art to use the teachings of Jurrus and Frenkel in the method of Uchiya to enhance adhesion of the reflective, protruding glass beads to the concrete matrix of his invention to prevent dislodging of the protruding beads from the matrix.

Uchiya teaches the use of set retardants and accelerators. Jurrus teaches the use of sand as aggregate.

Uchiya teaches the use of brushing or hosing to remove some cement material before hard-setting, to expose the surface glass beads (P50). The reference also teaches that it is known in the art, while inferior due to the use of acids, washing with acid after hard-setting to do the same.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kozak et al. (5,660,497) teaches 1 mm beads partially embedded (50-60%) in road aggregate or adhesive.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer K. Michener whose telephone number is (571) 272-1424. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Kolb Michener
Patent Examiner
AU 1762
August 22, 2004